

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

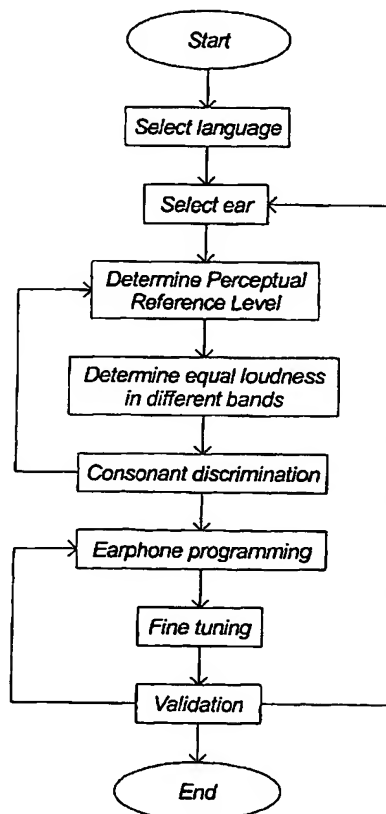
PCT

(10) International Publication Number
WO 2004/054318 A1

- (51) International Patent Classification⁷: **H04R 25/00**
- (21) International Application Number: PCT/DK2003/000833
- (22) International Filing Date: 4 December 2003 (04.12.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
PA 2002 01885 9 December 2002 (09.12.2002) DK
- (71) Applicant (for all designated States except US): **MICRO SOUND A/S** [DK/DK]; Papirfabrikken 26, DK-8600 Silkeborg (DK).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PEDERSEN, Søren, Louis** [DK/DK]; Lilleøvej 17, DK-8600 Silkeborg (DK).
- (74) Agent: **PATENTGRUPPEN ApS**; Arosgaarden, Aaboulevarden 31, DK-8000 Aarhus C (DK).
- (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,

[Continued on next page]

(54) Title: METHOD OF FITTING PORTABLE COMMUNICATION DEVICE TO A HEARING IMPAIRED USER



(57) Abstract: The present invention relates to a method of adapting signal processing characteristics of a portable communication device to a hearing impaired user, comprising the steps of determining a perceptual reference level (PRL) of a first stimuli signal (FSS) in a reference frequency band (RFB) by presenting said first stimuli signal (FSS) to said hearing impaired user, and obtaining perceptual judgements of a loudness of said first stimuli signal (FSS) from said hearing impaired user, and determining said perceptual reference level (PRL) of a second stimuli signal (SSS) in a further frequency band (FFB) by presenting said second stimuli signal (SSS) to said hearing impaired user, and requesting said hearing impaired user to compare a loudness of said second stimuli signal (SSS) with said loudness of said first stimuli signal (FSS). The present invention further relates to a method of adapting signal processing characteristics of a portable communication device to a hearing impaired user, comprising the steps of evaluating a hearing impairment of said hearing impaired user by presenting at least one stimuli signal (SS) to said hearing impaired user, and obtaining perceptual judgements of a predetermined attribute to said at least one stimuli signal (SS) from said hearing impaired user, and adjusting said signal processing parameters of said portable communication device according to said perceptual judgements of said at least one stimuli signal (SS); whereby said at least one stimuli signal (SS) comprises a set of test words, said test words each having a spectral energy content of which the effective part is within one restricted frequency band selected from a set of restricted frequency bands.



SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*